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ABSTRACT

An observational system having high inter-rater reliability and providing a reliable estimate of patterns of behavior across time periods is developed and tested for use in evaluating children's responses to a number of television styles and modes of presentation. This project was designed to meet three goals: first, to develop a valid and reliable assessment technique which would duplicate the home viewing environment; second, to provide information to the Appalachia Educational Laboratory (AEL) staff members responsible for planning future children's programs for the National Institute of Education (NIE); and third, to compare two pilot tapes with other program segments. The observational system presented in the study overcomes the weaknesses of those used in much prior research, and is thus able to provide much useful information to program planners. Time limitations, however, prevented drawing specific conclusions across program segments and pilot tapes. Attached appendixes include both descriptions of program materials and coding sheets used in the data collection. (WDR)

Children's Reaction to Types of Television

Brainard W. Hines

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Technical Report No. 28

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Children's Reactions to Types of Television Presentation

Introduction

In response to a request by the National Institute of Education (NIE) AEL has produced two pilot television programs for a new children's series. These new Around the Bend programs will utilize a number of innovative teaching techniques and will be incorporated into AEL's three-part Home-Oriented Preschool Program. This study is an integral part of planning for future television production by AEL.

The following report is designed to serve several major purposes. First, it will outline a specific technique for classifying and analyzing children's responses to various types of television programming designed for preschoolers. The technique itself may, with some revision, be included in the formative evaluation instrumentation for AEL's Marketable Preschool Education Program, and this description will allow individuals involved in that area to adapt the procedure to their needs.

Second, the results of this study can be used to guide those involved in preliminary planning for television production in selecting types of presentation which are most effective in holding children's attention or eliciting responses from viewers in a given situation. The results of this study can only give a preliminary indication of emphasis and will need to be further elaborated before inclusion into actual production techniques.

Finally, a comparison may be made between the responses of the children to those various program segments and their responses to the two pilot television programs currently being produced by AEL as a part of the MPEP. In this sense, data from these children constitute a rough baseline against which the pilot tapes may be compared.

Context of this Report

Since 1966, Appalachia Educational Laboratory has been developing and field testing a Home-Oriented Preschool Program for 3 to 5-year-old children. This program utilizes weekly visits to parents and children by a paraprofessional, group sessions under the supervision of a certified teacher, and daily broadcast of a television lesson for the children. It is this television program which is the central focus of the following report.

From the beginning of the Home-Oriented Preschool Education (HOPE) program, the television component has been intended to provide the substance of the HOPE curriculum directly to the child. Functioning in this way, it is necessary to produce a program which not only sustains interest, but also provides a balance of activities necessary to optimum learning within the home environment.

The first AEL television program, Around the Bend, utilized a format which was slowly paced to allow the viewers to respond to instructions from the teacher. It included a number of types of presentation, but because of budgetary constraints, little large-scale animation or similar techniques were used.

A formative evaluation technique was used within this program which involved ratings by the home visitor of the child's responses during five minute intervals of broadcast. The paraprofessional observed the child in the home and coded his behavior into a number of categories, including amount of time spent watching the screen. The procedure is described in AEL Technical Report No. 9.

The technique detailed in this report is a refinement of the one mentioned above, and is intended to provide information of a wider scope than purely formative feedback to program planners. It is intended primarily for incorporation into the production of a new television series in the Marketable Preschool Education Program and to provide information on the new pilot programs produced by AEL.

Review of Previous Research

Although a number of previous studies have been performed relating attention span to types of presentation, few of these have been of sufficient quality to use as a basis for planning this evaluation.

Early research on children's viewing habits was based primarily on observational rating scales to provide an estimate of attention to various program segments.[1] Other techniques such as a mechanical recording device or a paper and pencil interest inventory were attempted in the same study, but were judged to be too difficult for preschool children.

However, the observational technique had the disadvantage of biasing children's behavior with an adult in the room, as well as the continuing difficulty of developing valid scales and reliable observer training techniques.

These difficulties were reduced in a later study[2] where a mechanical device was used to measure eye contact with various program segments, as well as to relate eye contact with elements of central figures on the television screen. Although this procedure had many advantages, the lengthy adaptation time required, as well as the distraction of the apparatus itself, would introduce a considerable bias into the preference of some children.

Other studies used observational techniques on large groups of children[3,4]

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[1]Becker, S. L. and Wolfe, G. J. "Can Adults Predict Children's Interest in a Television Program?" in Schramm, W. (Ed.), The Impact of Educational Television; selected studies from research sponsored by NETRC. Urbana, University of Illinois Press, 1960. 195-213.

[2]Guba, E. and Wolf W. Perception and Television: Physiological Factor of Television Viewing. Columbus: The Ohio State University Research Foundation, 1964. 128pp. (NDEA Title VII Project #875).

[3]Burns, J. W. and Smith, "AV Elements in Science Telelessons", Audio Visual Communications Review, 1966, 14, 467-478.

[4]Bridges, C. C. "An Attention Scale for Evaluating ETV Programs." Journal of Educational Research, 1960, 54, 149-152.

to measure the number of pupils viewing a particular program segment during short intervals of time. The obvious problem with this technique is that the time intervals may or may not coincide with actual program segments, and thus do not give direct information on the attention of children to types of presentation.

During the developmental sequence of Around the Bend, the preschool television program produced by AEL, an observational system was used to measure the overt responses of the children viewing the program. This technique involved the home visitor observing the children's reactions to the television program during five-minute intervals and coding their responses into positive (enthusiastic) and negative (non-attending or disapproving) categories. This system had the advantage of taking place in the children's home, but the instrument was not tested for inter-rater reliability. However, it has the advantage of providing information not only on attending, but also on the effectiveness of verbal and visual stimuli on eliciting participation in the program.

Perhaps one of the most detailed and useful studies of children's attention to differing television presentations was conducted by Palmer and Crawford (1965). After a comprehensive review of previous evaluation techniques, Palmer and his associates decided on a combination of an observer rating scale with a periodic distractor being introduced during the programming. By varying their sample characteristics as well as the programming, the authors were able to delineate interest level for a particular program segment for a given sex, age, and nationality or race.

In this case, the distractor being used was a kaleidoscopic display located opposite a simulated television screen. It should be noted that the audio content of the television program was constantly available, and that no audible distractors were provided. This study did not attempt to measure the learning which may have taken place from the programming, but concentrated on visual attending to a given segment.

One of the most recent and comprehensive studies of attention to and learning from television for preschoolers was conducted by the Sesame Street staff (Children's Television Workshop), headed by Barbara Reeves.[5] This study used Palmer's distractor technique to measure attention and a number of program specific measures in a pre-post test design to measure learning of content. Unfortunately, no attempt was made to relate learning with visual attention or enthusiasm.

A more recent study[6] also used Sesame Street as a program stimulus and used a videotape of the children's behavior in both single and group viewing situations. Unfortunately, the N's for children watching singly or in groups were unequal (N = 6 and 24 respectively) and no statistical tests were made to determine if the number of children viewing was a significant variable in viewing or overt response categories.

Also, no report was made of the instructions to the children prior to their viewing of the program, thus making it difficult to ascertain the children's expectations or viewing set. Again, two adults were present in the room during the entire viewing period, and the effect of their presence is difficult to ascertain.

Overall the percentage of viewing time for this program was found to be approximately 81% for both groups. Since only one Sesame Street program was used, it also was difficult to determine whether this figure could be applied to the entire series or whether the tape was exceptional in its attraction to the children.

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[5]Reeves, B. The First Year of Sesame Street, The Formative Research, Final Report. New York: Children's Television Workshop, 1970.

[6]Sproul, Natalie. "Visual Attention, Modeling Behaviors, and Other Verbal and Nonverbal Meta-Communication of Prekindergarten Children Viewing Sesame Street", American Educational Research Journal, Spring 1973, Vol. 10, No. 2, pp. 101-114.

Many of these studies took place in a relatively "artificial" environment, where one child was seated in front of a television set, was observed by an unfamiliar adult, and was not provided with a setting similar to the one where actual viewing would occur. Again, the children used in these studies may not have been as "sophisticated" as the children who would be viewing television programs produced by AEL. The current emphasis on preschool programs has produced a number of shows which are of high enough technical and educational quality to change the viewing habits of the potential target audience.

In contrast to the possible changes in children's experience with and expectations for television programs, the characteristics of the children in the Appalachian Region in regard to their viewing habits may differ from those children in the samples which were tested by Palmer and the others mentioned above. No attempt has been made to delineate the differences which socio-economic status might make in viewing or responding habits of the children who will be viewing television in Appalachia.

Essentially, then, the previous research in the area of children's television has been inadequate in several respects. First, little information has been available on the demographic characteristics of the children in the samples used previously, and no effort has been made to match these characteristics to their viewing patterns.

Second, and most important, the dependent variables which were measured were almost entirely in the area of attention span and eye contact with the screen. Only the previous AEL study made an attempt to assess types of overt responses in a home-type environment, and in that case, type of program presentation was not considered as an independent variable.

In view of these deficiencies, it was decided to test an evaluation technique which would use children from within the region, would utilize a variety of pro-

gramming techniques to elicit reactions, and would take place in a natural, relaxed atmosphere, with many of the same distractions as would be present in the home.

Design of the Study

During the week of March 19, 1973, ten hours of television programs for preschool children were videotaped as they were broadcast from local stations. The ten hours of programming consisted of the following shows: Zoom, one hour; Captain Kangaroo, three hours; Misteroger's Neighborhood, three hours; and Sesame Street, three hours. These shows were taped in black and white for reasons to be discussed below.

These shows were considered as a pool of presentation types, including monologue and dialogue sequences, singing, and dancing, film and narration, and a number of types of animation. Each program was viewed and individual segment types and lengths were described for each show. From this pool, two taped "shows" were prepared by combining various segments from the programs listed above.

An effort was made to use as many different types of segments as possible and to draw from all of the four programs for each "show". In order to make overall comparisons with AEL's pilot tapes of a new Around the Bend possible, the final combination of segments was kept to approximately 28 1/2 minutes, which is the anticipated length of the new Around the Bend series. The actual composition of each tape is shown in Appendix A.

These two tapes were shown to a sample of 22 children, aged 4, 5, and 6, selected from a local nursery school. Approximately 20 percent of the children were 4, and 60 percent were 5 and 6-years-old. The children were brought (two at a time) to a central location to view the tapes. It was decided to record two children's behavior watching the segments simultaneously for several reasons. First, brothers and sisters are frequently present in the home and provide distractions during television programs. Second, the potential for distraction with two children in the room provides variance in viewing behavior. Finally,

taping and coding the behavior of two children at one time reduced the amount of time needed for observation and coding of behavior.

The children were placed in a partitioned enclosure approximately ten feet wide and twenty feet long. They were allowed to sit on the floor and several toys were available in the enclosure. The television monitor and camera were placed approximately thirty degrees apart to allow observation of the children's eye contact with the screen. The camera was placed to allow observation of the entire viewing area.

The children were told that they were going to see some television programs, and that afterwards they would be asked to tell which part they liked the best. After seating the children, the examiner started the recording equipment and left the room. As a rule, no adult again entered the room unless there was some indication of equipment failure or one of the children asked for something.

Each child watched one group of segments from other programs first and then viewed one of the two AEL pilot tapes for a new Around the Bend series. Since it was not possible to obtain the pilot tapes and segments at the same time, all children saw the segments first and the pilot tapes second.

Coding of Responses

The videotape of the children was played back through a standard television monitor, and their behavior was coded at 15 second intervals according to the following category system:

Program unrelated response: This category was defined as any behavior which took place while the child was not watching the screen, and which did not involve an interaction with the other child or response to television cues.

Elicited non-verbal response: In this case the child performed some action at the request or suggestion of one of the television characters. The behavior may be rhythmic or pantomime in nature.

Elicited verbal response: This category includes all spoken responses made to television cues. This category applies only to those responses made to direct questions or commands.

No overt response: Behavior in this category includes only those responses which involve direct eye contact with the screen. This is a measure of visual attending to the program content.

Verbal enthusiasm: This category includes all verbal behavior such as laughing, singing along with television characters, or statements such as "I like this."

Non-verbal enthusiasm: Behavior such as smiling, non-elicited pantomime or mimicing the behavior of characters on the screen, and moving with music contained on a program segment are coded in this category.

Non-verbal negative response: Behavior in this category includes all non-verbal signs of disapproval, such as frowning, crying, etc.

Verbal negative response: This category includes all negative statements about program content, such as "I don't like this", or simple negative exclamations.

Cross-child interaction: Any interaction between the two children which does not relate to program content is coded in this category. The interaction may be verbal or may include play, wrestling, or games.

Observations were made every fifteen seconds for an interval of six seconds. In other words, the children's behavior was coded for a six second interval centered around each fifteen second point on the videotape of their performance.

The interrater reliability correlation coefficient was .89 for the sample segments from the other television programs and was .94 for the pilot tapes. Since it was possible that sampling behavior at fifteen second intervals would exclude certain patterns of responding, a "retest" correlation was done relating two sets of tallies covering different time intervals. A second set of responses was coded using different coding points (ten seconds later on each segment). The

correlation between these sets of scores was .91, indicating that the procedure provided reliable estimates of overall behavior. Copies of the coding sheets for the two programs of individual segments are presented in Appendix B.

Measuring Responses to the Pilot Tapes

As was mentioned earlier in this report, two pilot television shows were filmed by AEL to demonstrate the capability to produce a marketable series for preschool children. These two pilot tapes were shown to the same children plus ten others from a local Head Start program and a similar procedure was used to quantify and record their responses.

Because the earlier segments from other television programs were recorded and shown to the children in black and white, because many television sets in the Appalachian Region are black and white, and since the previous segments had been in black and white, it was decided to make a black and white copy of the pilot tapes which were filmed in color, and to show that copy to the children. Since this procedure may have reduced the overall level of attention to the television presentation, it should be kept in mind that the amount of attention paid to any segment of the pilot tapes or sample segments probably represents a minimum value rather than the "optimal condition" which is represented in previous studies. That is, since adults were not present in the room, and since other distractors were available, the television content was solely responsible for attending and program related responses. Thus, this technique provides a valid method of measuring the effect of television presentation.

A copy of the various segments included in each pilot tape is presented in Appendix C, while sample code sheets for the two pilot tapes are given in Appendix D.

Visual Attention to Various Segments

A primary question which can be asked about any television presentation concerns the amount of time spent by the children in eye contact with the screen.

Figure 1 indicates the percent of time spent in viewing the segments taken from Zoom, Misteroger's Neighborhood, and Sesame Street. The percentage amounts were calculated by dividing the total number of tallies in the "No Response" category by the sum of the "Program Unrelated", "No Response", and "Cross Child Interaction" cagegories. This figure represents the amount of time spent in "positive" viewing, where the child was not making any overt responses to environmental cues. Although it is likely that the children were still attending to the auditory content of the programs while they were looking away or engaged in single play, the visual content of the segments is of primary concern in measuring interest.

Figure 2 indicates a similar percentage of time spent in viewing the second collection of segments, taken from Sesame Street, Misteroger's Neighborhood, and Captain Kangaroo.

In both cases, a wide variance is present in the amount of viewing time across segments and programs. If we assume that the various segments shown to the children represent a sample of the overall attention holding quality of the programs from which they were selected, then an average percent of attention can be calculated for each program.

The average percent of overall veiwing of the various programs represented is as follows: Captain Kangaroo, 26%; Misteroger's Neighborhood, 53%; Sesame Street, 57%; and Zoom, 72%. While it may be argued that the figure for Zoom may be spuriously high, since only three segments were taken from that show, the remainder of the segments probably represent a fair sample of overall program content.

The following definitions were used for each type of presentation:

Monologue -- any segment involving a spoken presentation where only the speaker is shown. The speaker may be human or puppets.

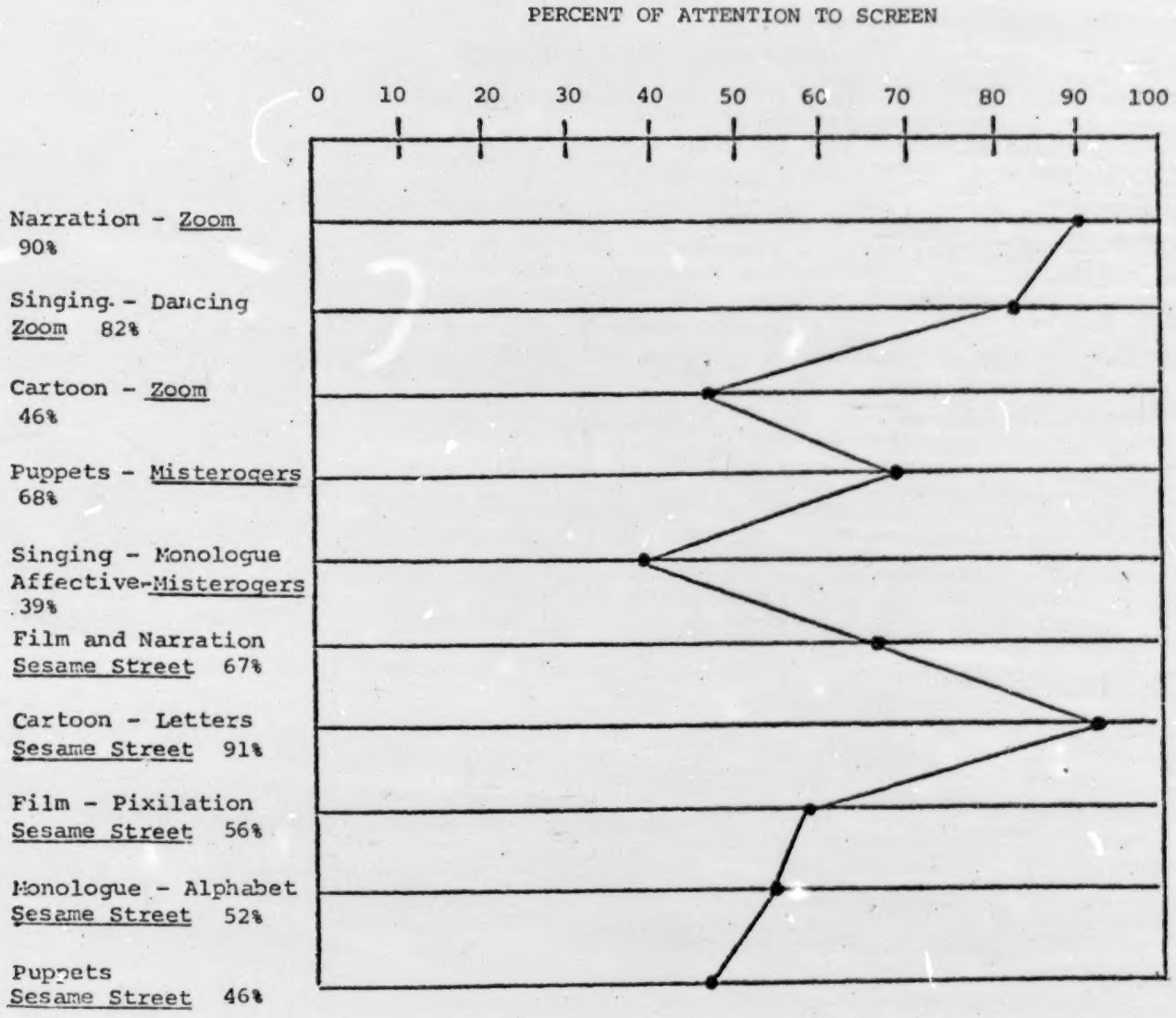

Figure 1

Percent of Attention to Screen for Segments of All Available Programs for Children - Tape 1

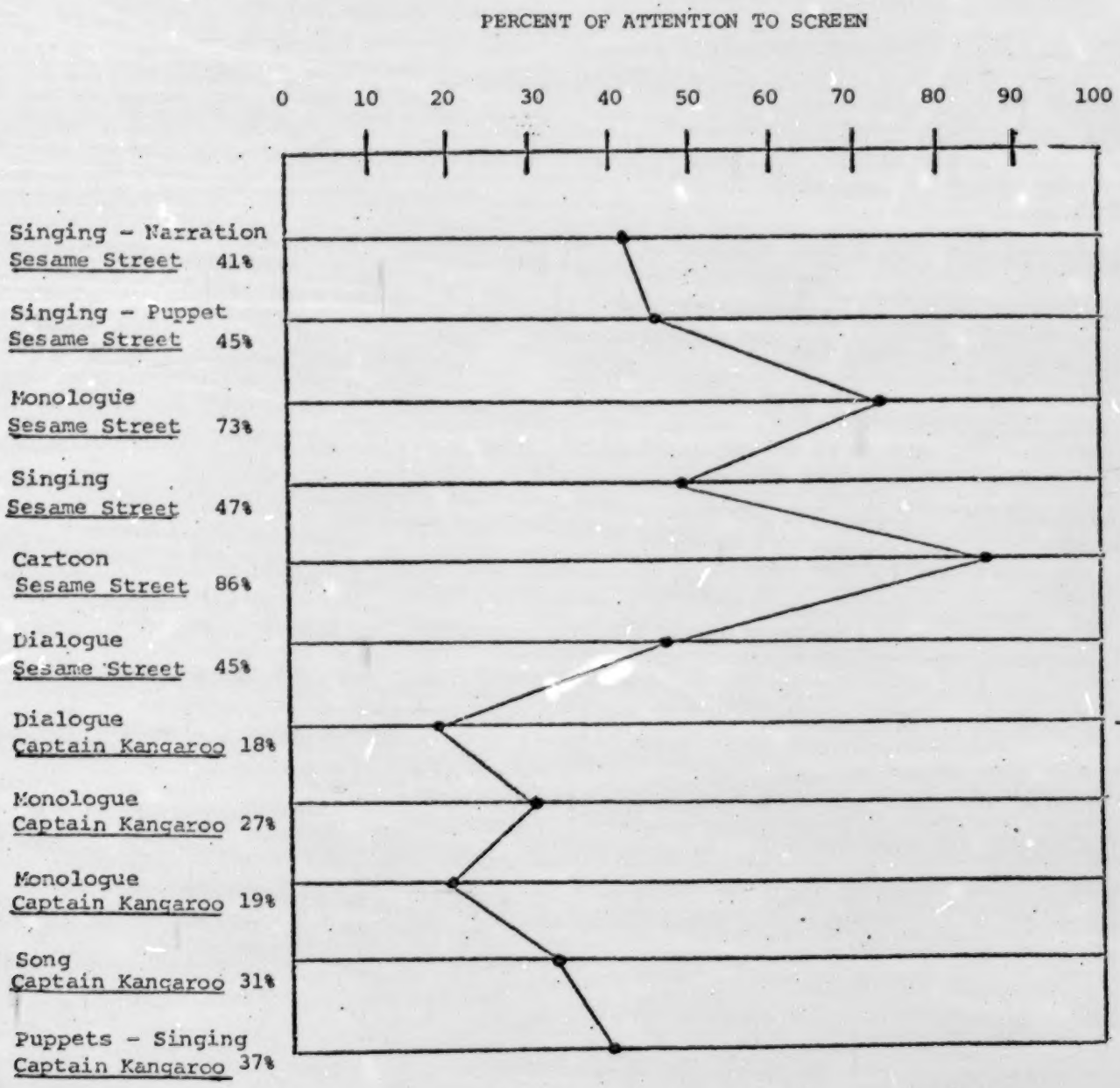

Figure 2

Percent of Attention to Screen for Segments of All Available Programs for Children - Tape 2

Narration -- any segment where a spoken description is made of a filmed presentation

Dialogue -- any segment where two characters are shown interacting verbally. The speakers may be humans or puppets.

Animation -- any segment using animation where dialogue, monologue, or narration is included

Pixilation -- any related techniques which involve artificial movement, stops, or reversals produced by editing film segments

As can be seen from Figure 1 and 2, percentage of viewing time is quite variable within each collection of segments. Those portions which involved monologues or narration had the greatest variation in attending, ranging from a high of 92% attending to an animated Sesame Street segment to a low 20% attention to a Captain Kangaroo monologue. If this category is subdivided in actual monologue and narration, the average percent of time attending is quite different. The percentages are as follows: narration, 75.2%; time attending and monologue, 36.1% attending. It seems apparent that the relatively unchanging stimuli presented by a single individual is far poorer at holding attention than the rapidly changing stimuli of an animated story or filmed sequence.

Monologues and narration produced the highest overall average percent of time attending with 52.3%, while songs averaged second with an average of 48%, and dialogues ranked lowest with an average of 44% time spent in viewing the screen.

Generally, (and not surprisingly) children attended to short unpredictable sequences of events and to films of children and animals accompanied by narration more than they did in the relatively static monologues of adults.

A question which may be voiced at this point concerns the importance of visual attention as an indicator of program worth. Because it is readily

observed, it traditionally has been a major variable in assessing program quality and, indirectly, the learning which may result from viewing the program. However, visual attention is not necessary when the primary mode of instruction is verbal. For example, if a character is reciting the alphabet, then it is not necessary for the child to watch the screen to learn the proper sequence of letters. Or, if the main purpose of a particular sequence is to communicate an abstract principle (sharing, self-worth, etc.), then the child does not have to watch the character to understand the message.

The danger exists, however, that if a child looks away from the screen, he may be distracted completely by another object or person in the room. Thus, it would seem that although visual attention is not the only variable which should be considered, it is of major importance in designing segments which will provide a maximum opportunity for the child to learn.

Viewing of the pilot tapes produced the average percentage of attending shown in Figures 3 (pilot tape 1) and 4 (pilot tape 2). For the first pilot tape, the highest percent of attending (72%) was elicited by a segment involving a song about making a funny face. The high rhythmic quality of the song itself, as well as the expression of the young children in the segment probably contributed to its attraction. The average percent of viewing for the first pilot tape was 52%.

Segments involving a monologue by an adult character did not elicit as much attending behavior (51%) as a monologue by a puppet (wizard segment) or as much as did a dialogue between several adults or puppets (60%). These findings are consistent with the previous results from the earlier programs viewed by the same children.

The second pilot tape showed essentially similar patterns of viewing behavior. The children attended most to a segment involving narration of a filmed sequence. They attended least to a monologue and to an extended dialogue

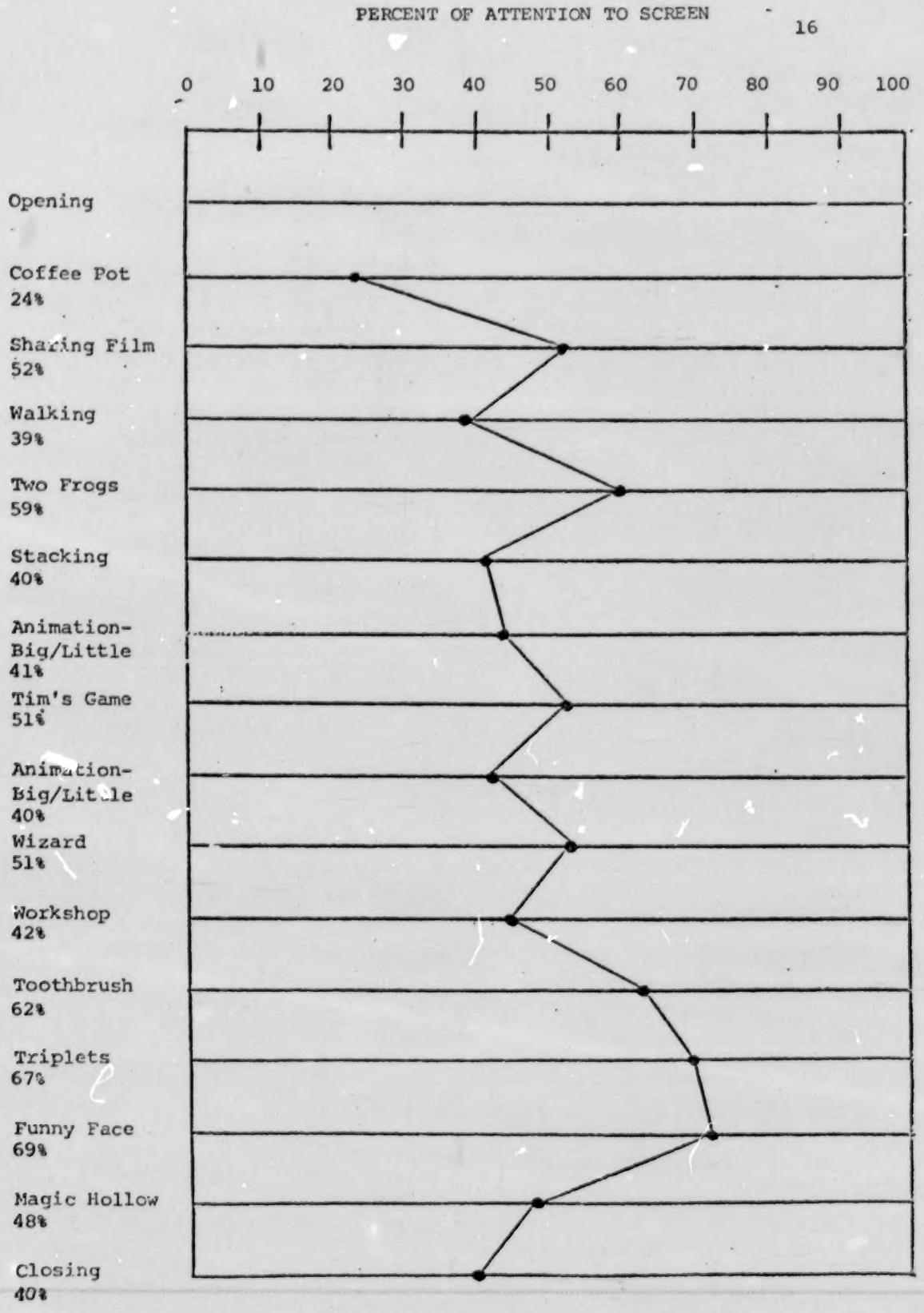

Figure 3

Percent of Attention to Screen for Segments of
Around the Bend - Pilot Tape 1

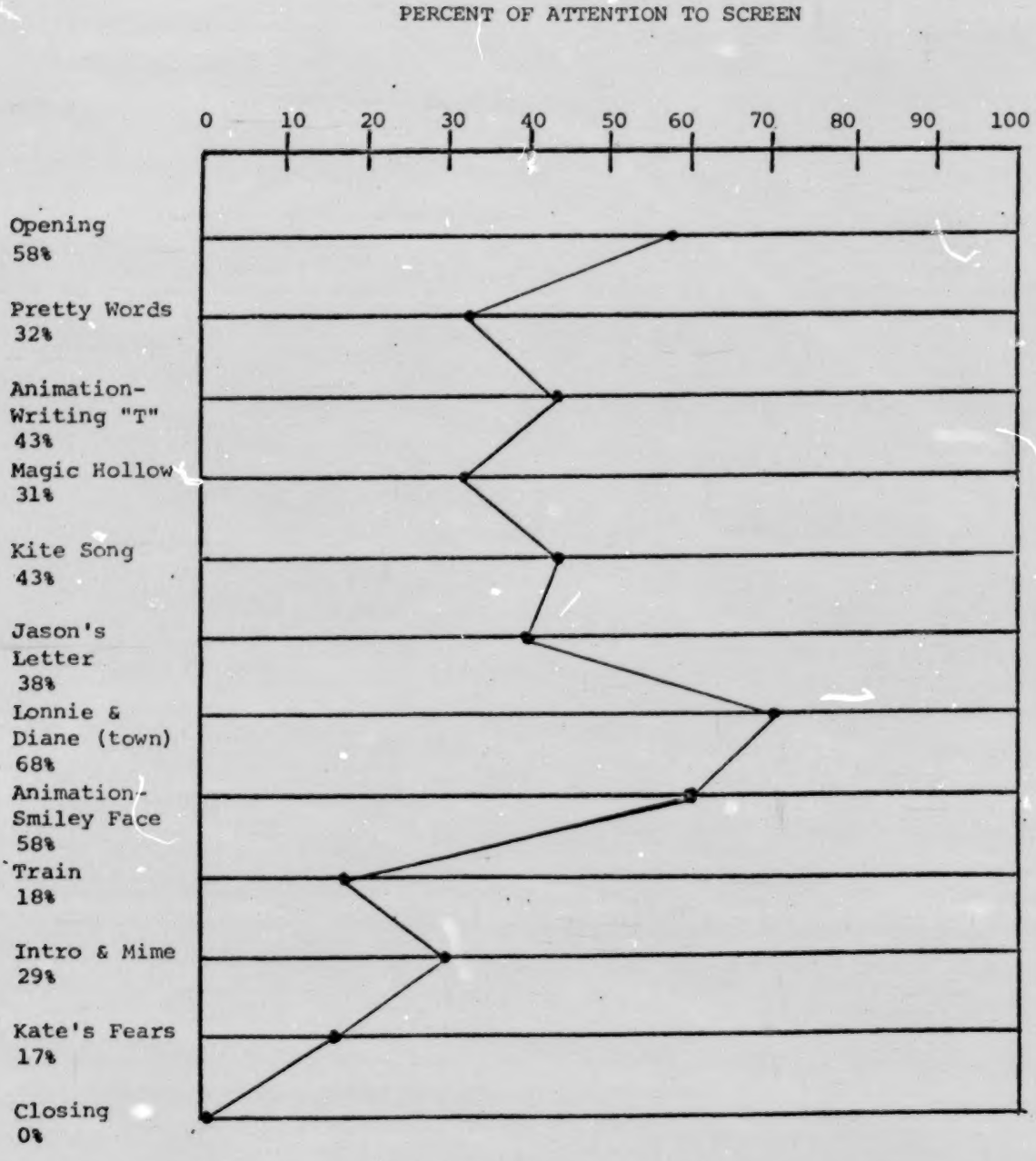

Figure 4

Percent of Attention to Screen for Segments of
Around the Bend - Pilot Tape 2

sequence. Songs and animated sequences also held the children's interest.

The consistency of these results across both pilot tapes and across the segments from other programs indicate a consistent pattern of viewing behavior for the children in this sample. There was a marked preference for novelty, unpredictability and surprise ending. The children preferred to watch dialogues rather than monologues, and animation or filmed sequences of events rather than the relatively static didactic presentation of adults speaking directly to the children.

Overt Responses to Programming

A second major area of interest is the pattern of overt responses made by the children during the time they were exposed to the programs. Figures 5 and 6 show the percent of elicited responses and verbal and non-verbal enthusiasm for each of the segments taken from available programming. For the sake of simplicity verbal and non-verbal responses are combined for both categories. The percentage figures shown are derived from all categories except "No Response", and represent the percent of all overt responses in the "Elicited" and "Enthusiasm" classifications.

The broken line in these figures represents the percent of "enthusiasm" responses. Several of the segments which received the highest number of positive responses, elicited less overall viewing time, while others which produced the most viewing time produced fewer responses from the children.

The following table (page 17) shows a comparison of several segments taken from the pilot tapes and other programs on percent of viewing and percent of enthusiasm.

As is evident from the figures in the table, it is difficult to predict overt enthusiasm from the amount of viewing of a particular segment.

Segment	Percent Attention	Percent Enthusiasm
Cartoon -- Sesame Street	90	30
Narration -- Zoom	50	55
Puppets -- Misterogers	72	8
Monologue -- Sesame Street	77	57
Animation -- Pilot 1	45	35
Song -- Pilot 1	72	10
Narration -- Pilot 2	70	0

Table 1

Percent of Viewing and Enthusiasm

In conclusion, preliminary analyses of data from observation of a group of preschool children indicates the following:

1. Children exhibit both active and passive patterns of viewing, with active patterns elicited by highly rhythmic, "bouncy" musical presentation, humerous cartoons or novel filming techniques. More passive viewing stems from narration or dialogue between two characters.
2. Long monologues addressing the children directly failed to hold attention for any length of time.
3. There was little direct relationship between overt expressions of enthusiasm or pleasure and viewing time for any segment.
4. Cartoons and films were most effective holding attention to the screen.
5. Children made a greater number of elicited response to the two AEL pilot programs than they did to the segments taken from other preschool programs.
6. The technique used in this study seems to be valid and reliable enough for further use in program planning and for incorporation into the Marketable Preschool Education Program in the future.

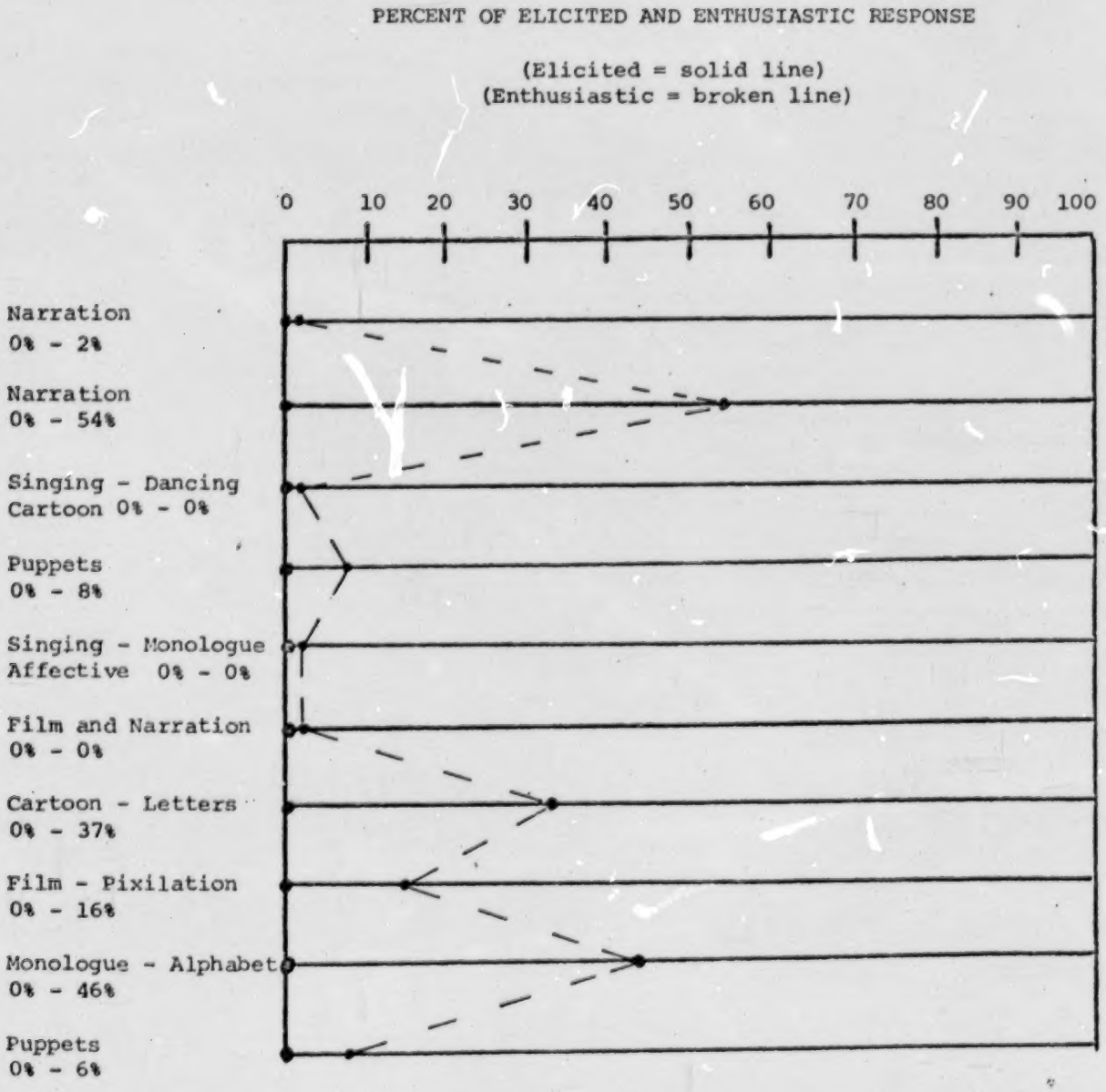

Figure 5

Percent of Elicited and Enthusiastic Response for Segments of All Available Programs for Children - Tape 1

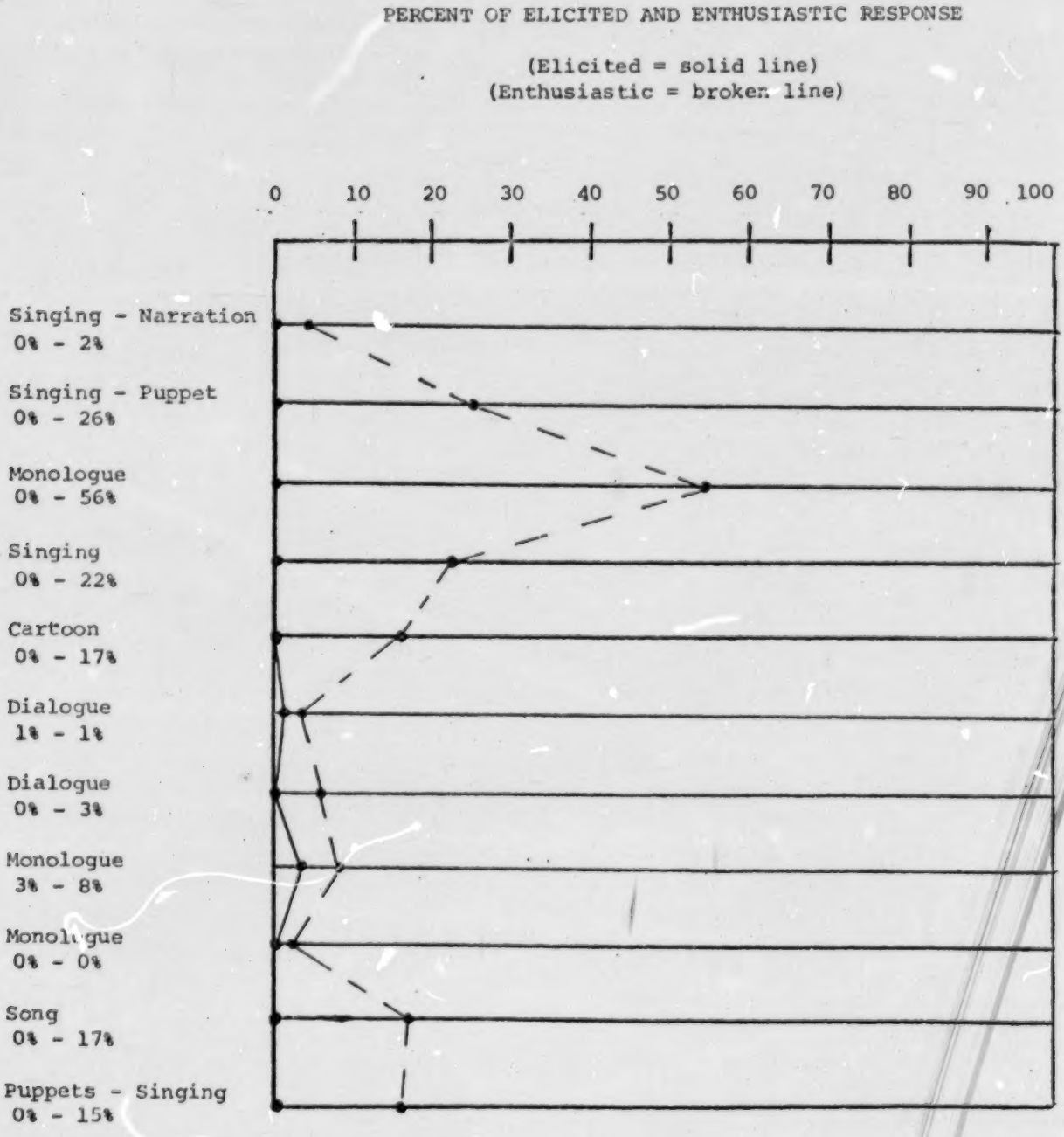

Figure 6

Percent of Elicited and Enthusiastic Response for Segments of All Available Programs for Children - Tape 2

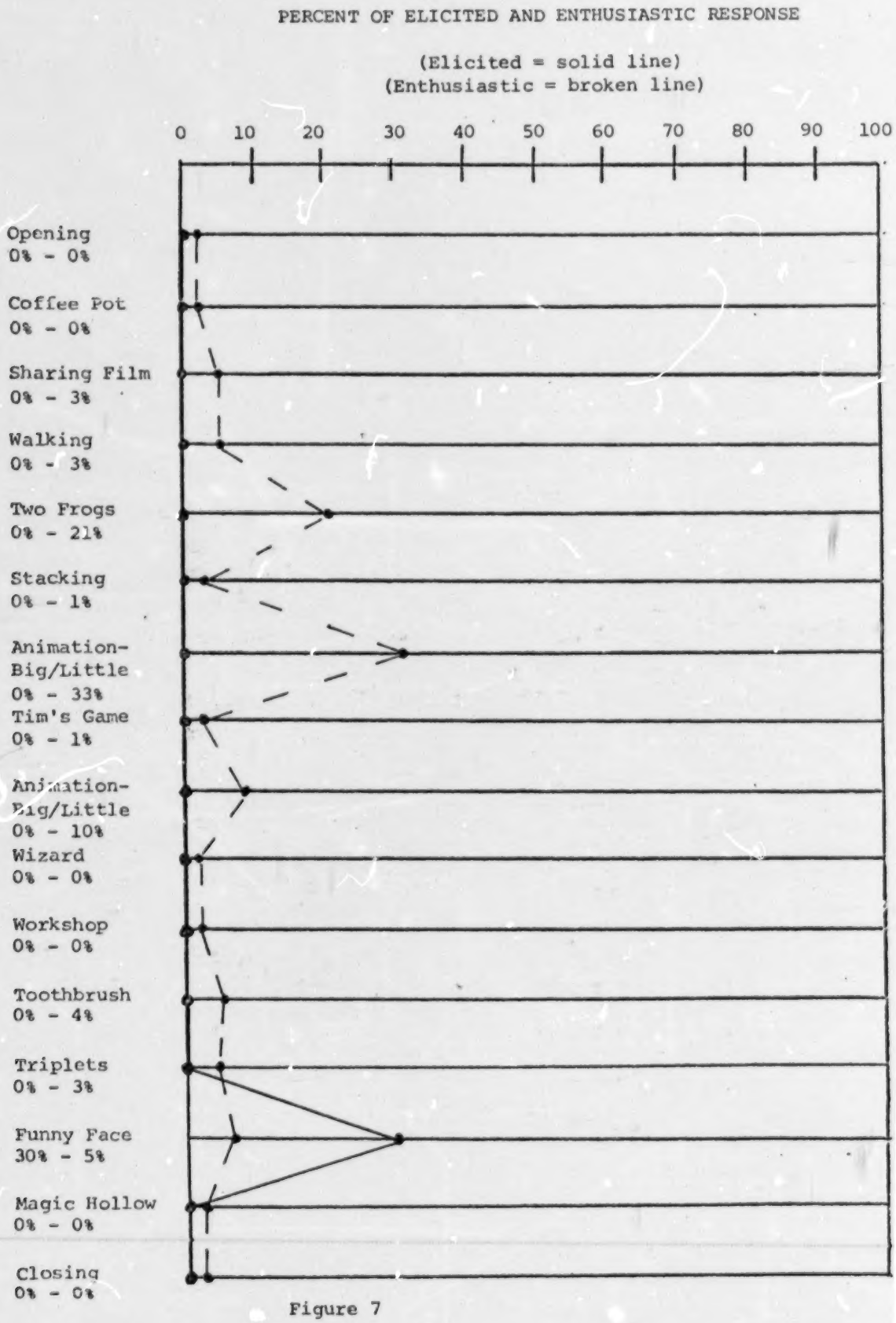

Figure 7

Percent of Elicited and Enthusiastic Response
for Segments of Around the Bend - Pilot Tape 1

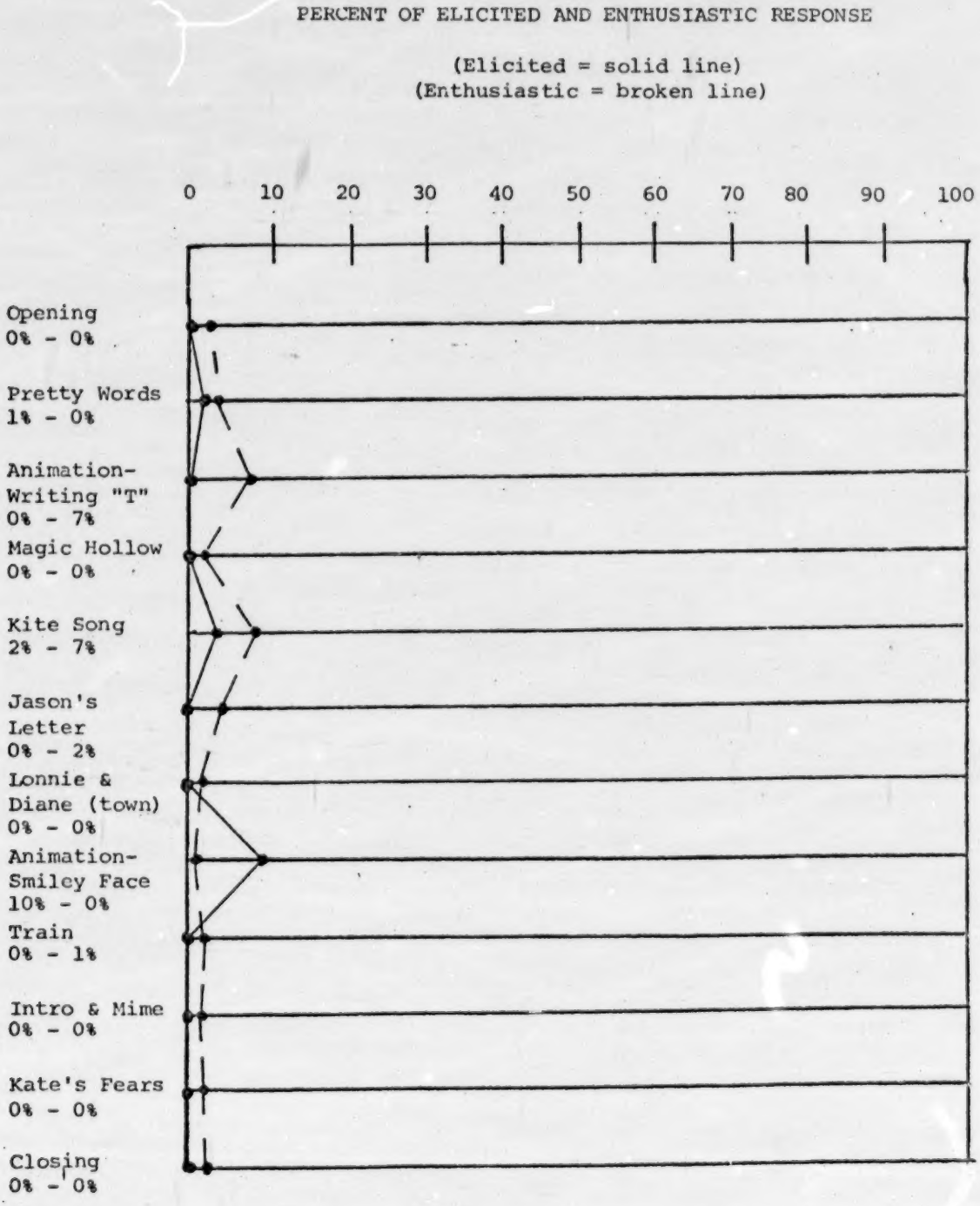

Figure 8

Percent of Elicited and Enthusiastic Response
for Segments of Around the Bend - Pilot Tape 2

It is very possible that different styles of presentation elicit active and passive viewing styles. It seems likely that rapidly paced songs, animation, etc. tend to elicit more active viewing, while slower paced narration and dialogue elicit a more passive viewing pattern.

Elicited response was very infrequent for all programs, occuring in only three of the 21 segments taken from current children's programs. This is easily understood, since few, if any, of these shows make an effort to actively involve children.

Generally, children made the greatest percent of enthusiastic responses to song sequences, animation, and to events which were surprising or unusual in nature.

As was true with viewing behavior, similar results are found in comparing overt responses on the pilot tapes with those on the previous segments. Children made the greatest number of enthusiastic responses to segments involving songs, animation, and comic or surprise endings.

Both pilot tapes produced a higher number of elicited responses than did the segments from other programs. This was particularly true of the "Funny Face" song where children made the greatest number of elicited responses.

Although pilot tape 2 produced fewer enthusiastic responses than pilot tape 1, it did elicit responses from the children over a greater number of segments. Again, songs and animation were the most effective in eliciting these responses, while monologue and dialogue elicited the fewest. The consistency of these results indicate a stable pattern of responding and have major implications for planning future productions.

Summary

This report attempted to relate the development and use of an observational system to evaluate children's responses to a number of television

styles and modes of presentation. The technique has high inter-rater reliability, and provides a reliable estimate of patterns of behavior across time periods.

The setting of the observations is designed to replicate a more home-like environment than has been present in other recent studies, and should give a more accurate representation of children's unbiased preference in programming.

At the beginning of this report, three major goals for this effort were set forth. These were: first, to develop a valid and reliable assessment technique which would clearly duplicate television viewing in the home environment; second, to provide information to those AEL staff members responsible for planning future Around the Bend production; and finally, to compare two pilot tapes with segments of other programs.

While the first two tasks have been met, only the most general conclusions can be drawn from a comparison across segments and pilot tapes. Because of time limitations it was not possible to alternate presentations of pilot tapes with other program segments, and this may have introduced a systematic bias into the children's behavior. Provided that resources are available, a follow-up study may be done to corroborate the findings presented above, using a more rigorous experimental design.

A second area for additional study concerns the viewing habits of children from different socio-economic backgrounds. The six nursery school children who viewed the second pilot tape attended to the program approximately 70% of the time, while the Head Start children viewed considerably less frequently. It would be highly relevant to ascertain whether those results are atypical or whether a definite bias exists in lower income children's viewing habits.

Appendix A

Segments Taken from Available Preschool Television Programs
for the Week of March 16-23, 1973

Tape 1

Segment 1	Narration - Zoom
Segment 2	Singing - Dancing - Zoom
Segment 3	Cartoon - Zoom
Segment 4	Puppets - Misterogers
Segment 5	Singing - Monologue - Affective - Misterogers
Segment 6	Film and Narration - Sesame Street
Segment 7	Cartoon - Letters - Sesame Street
Segment 8	Film - Pixilation - Sesame Street
Segment 9	Monologue - Alphabet - Sesame Street
Segment 10	Puppets - Sesame Street

Tape 2

Segment 1	Singing - Narration - Sesame Street
Segment 2	Singing - Puppet - Sesame Street
Segment 3	Monologue - Sesame Street
Segment 4	Singing - Sesame Street
Segment 5	Cartoon - Sesame Street
Segment 6	Dialogue - Sesame Street
Segment 7	Dialogue - Captain Kangaroo
Segment 8	Monologue - Captain Kangaroo
Segment 9	Monologue - Captain Kangaroo
Segment 10	Song - Captain Kangaroo
Segment 11	Puppets - Singing - Captain Kangaroo

Appendix B

Coding Sheets for Segments of Preschool Programs
Tape 1 and 2

NAME _____ AGE _____ SEX _____

TAPE 1

	PROGRAM UNRELATED RESPONSE	NONVERBAL RESPONSE	VERBAL RESPONSE	NO RESPONSE	VERBAL ENTHUSIASM	NONVERBAL ENTHUSIASM	NONVERBAL NEGATIVE RESPONSE	VERBAL NEGATIVE RESPONSE	CROSS-CHILD INTERACTION
SEGMENT 1									
SEGMENT 2									
SEGMENT 3									
SEGMENT 4									
SEGMENT 5									
SEGMENT 6									
SEGMENT 7									
SEGMENT 8									
SEGMENT 9									
SEGMENT 10									

REMARKS

NAME _____ AGE _____ SEX _____

TAPE 2

	PROGRAM UNRELATED RESPONSE	NONVERBAL RESPONSE	VERBAL RESPONSE	NO RESPONSE	VERBAL ENTHUSIASM	NONVERBAL ENTHUSIASM	NONVERBAL NEGATIVE RESPONSE	VERBAL NEGATIVE RESPONSE	CROSS-CHILD INTERACTION
SEGMENT 1									
SEGMENT 2									
SEGMENT 3									
SEGMENT 4									
SEGMENT 5									
SEGMENT 6									
SEGMENT 7									
SEGMENT 8									
SEGMENT 9									
SEGMENT 10									
SEGMENT 11									

REMARKS

Appendix C

Composition of Pilot Tape 1 -- Around the Bend

Segment 1	Opening
Segment 2	Coffee Pot
Segment 3	Sharing Film
Segment 4	Walking
Segment 5	Two Frogs
Segment 6	Stacking
Segment 7	Animation - Big/Little
Segment 8	Tim's Game
Segment 9	Animation - Big/Little
Segment 10	Wizard
Segment 11	Workshop
Segment 12	Toothbrush
Segment 13	Triplets
Segment 14	Funny Face
Segment 15	Magic Hollow
Segment 16	Closing

Composition of Pilot Tape 2 -- Around the Bend

Segment 1	Opening
Segment 2	Pretty Words
Segment 3	Animation - Writing "T"
Segment 4	Magic Hollow
Segment 5	Kite Song
Segment 6	Jason's Letter
Segment 7	Lonnie & Diane (town)
Segment 8	Animation - Smiley Face
Segment 9	Train
Segment 10	Intro & Mime
Segment 11	Kate's Fear
Segment 12	Closing

Appendix D

Coding Sheets for Around the Bend
Pilot Tapes 1 and 2

NAME _____ AGE _____ SEX _____

TAPE 1

	PROGRAM UNRELATED RESPONSE	NONVERBAL RESPONSE	VERBAL RESPONSE	NO RESPONSE	VERBAL ENTHUSIASM	NONVERBAL ENTHUSIASM	NONVERBAL NEGATIVE RESPONSE	VERBAL NEGATIVE RESPONSE	CROSS-CHILD INTERACTION
1. Opening									
2. Coffee Pot									
3. Sharing Film									
4. Walking									
5. Two Frogs									
6. Stacking									
7. Animation-Big/Little									
8. Tim's Game									
9. Animation - Big/Little									
10. Wizard									
11. Workshop									
12. Toothbrush									
13. Triplets									
14. Funny Face									
15. Magic Hollow									
16. Closing									

NAME _____ AGE _____ SEX _____

TAPE 2

	PROGRAM UNRELATED RESPONSE	NONVERBAL RESPONSE	VERBAL RESPONSE	NO RESPONSE	VERBAL ENTHUSIASM	NONVERBAL ENTHUSIASM	NONVERBAL NEGATIVE RESPONSE	VERBAL NEGATIVE RESPONSE	CROSS-CHILD INTERACTION
1. Opening									
2. Pretty Words									
3. Animation-Writing "T:									
4. Magic Hollow									
5. Kite Song									
6. Jason's letter									
7. Lonnie & Diane(town)									
8. Animation - Smiley Face									
9. Train									
10. Intro & Mime									
11. Kate's Fears									
12. Closing									